

# INVESTIGATOR'S ANNUAL REPORT

## National Park Service

All or some of the information provided may be available to the public

<b>Reporting Year:</b> 2000	<b>Park:</b> Shenandoah NP						
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<b>Additional investigators or key field assistants (first name, last name, office phone, office email):</b>  <table border="0"> <tr> <td><b>Name:</b> Robin E. Jung</td> <td><b>Phone:</b> 301-497-5875</td> <td><b>Email:</b> n/a</td> </tr> <tr> <td><b>Name:</b> John R. Sauer</td> <td><b>Phone:</b> 301-497-5662</td> <td><b>Email:</b> n/a</td> </tr> </table>		<b>Name:</b> Robin E. Jung	<b>Phone:</b> 301-497-5875	<b>Email:</b> n/a	<b>Name:</b> John R. Sauer	<b>Phone:</b> 301-497-5662	<b>Email:</b> n/a
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<b>Permit#:</b> SHEN1999N-232							
<b>Park-assigned Study Id. #:</b> unknown							
<b>Project Title:</b> Standardized Monitoring Methods For Amphibians In National Parks And Associations In Time And And Space Between Amphibian Abundance And Environmental Stressors							
<b>Permit Start Date:</b> Jan 01, 2000	<b>Permit Expiration Date</b> Jan 01, 2000						
<b>Study Start Date:</b> Jan 01, 1998	<b>Study End Date</b> Jan 01, 2000						
<b>Study Status:</b> Completed							
<b>Activity Type:</b> Monitoring							
<b>Subject/Discipline:</b> Herpetology (Amphibians / Reptiles)							
<b>Objectives:</b> Develop protocols for long-term monitoring of amphibian populations in relation to environmental factors at Shenandoah National Park. Document amphibian (egg, larva, adult) distribution and abundance using various survey methods (area- and time-constrained searches in plots and along transects, artificial cover objects, leaf litter bags, 1 m2 quadrats, chorus surveys). Amphibians are measured and sexed in the field and any deformities or diseases are documented. Population size estimates are assessed using mark-recapture (visible implant fluorescent elastomer) and removal techniques. Amphibian distribution and abundance are analyzed in relation to water quality (temperature, pH, acid-neutralizing capacity, conductivity), soil parameters (moisture, pH) and habitat variables (e.g., streambank composition). A study of Plethodon shenandoah genetics in the Park was completed and monitoring methods for this species were tested.							
<b>Findings and Status:</b> In 2000, we continued monitoring populations of terrestrial salamanders at 24 plots (15-20 m2) in five areas of the park (Headquarters, Shenk's Hollow, Pocosin, Tanner's Ridge, Fisher's Gap). Plots were surveyed once in the spring of 2000. The Headquarters and Shenk's Hollow plots represent burn and control areas to look at salamander populations before and after a prescribed burn which took place in October 1999. The Pocosin, Tanner's Ridge, and Fisher's Gap plots were established to look at the effect of artificial cover object (ACO) additions on redback salamander populations. ACOs are currently being proposed as a good monitoring technique, because they provide a more standardized sampling unit, are easier to overturn, may make salamander detection easier, and do not disturb the natural habitat. This study is meant to address how red-backed salamander population counts and estimates using natural cover objects may differ from those based on ACOs. We also surveyed Big Meadows pool and found wood frog tadpoles. We also helped fund terrestrial salamander surveys in association with a soil and vegetation survey conducted by Rick Webb (University of Virginia) in Shenandoah National Park.							
<b>For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?</b> No							

<b>Funding provided this reporting year by NPS:</b> 0	<b>Funding provided this reporting year by other sources:</b> 0
<b>Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college</b>	
<b>Full name of college or university:</b> N/A	<b>Annual funding provided by NPS to university or college this reporting year:</b> 0